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Standard Grades for
Apples, Potatoes and Wheat



F. P. WILLITS, Secretary of Agriculture
P. R. TAYLOR, Bureau of Markets

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PENNSYLVANIA DEPARTMENT OF AGRICULTURE

Administrative Organization

FRANK P. WILLIAMS, *Secretary*

JOHN M. McKEE, *Deputy Secretary*

This Department is essentially a service agency created by legislative enactment to deal with administrative, regulatory, investigational, and educational problems which can best be solved through public rather than individual action. The organization provides for coordination and cooperation with the Pennsylvania State College and the U. S. Department of Agriculture. The Department operates through the following bureaus:

ANIMAL INDUSTRY:

T. E. MUNCE, *Director and State Veterinarian.*

Prevents and eradicates transmissible diseases of animals and poultry, including tuberculosis of animals in cooperation with Federal Government.

Demonstrates to veterinarians control methods for transmissible animal diseases;

Supervises vaccination for and the prevention of hog cholera, anthrax, black leg and hemorrhagic septicemia;

Protects public from unwholesome meats through ante and post mortem examinations of animals at slaughtering establishments;

Inspects, licenses and furnishes information as to breeding, soundness and conformation of stallions and jacks standing for public service;

Enforces law requiring licensing of dogs and providing for protection of livestock and people from attacks of uncontrolled dogs;

Maintains laboratory for diagnostic research and experimental projects.

PLANT INDUSTRY:

CHARLES H. HADLEY, *Director.*

Tests agricultural seeds for purity and germination, and enforces State Seed Law;

Inspects orchards, parks, farms, and plant imports for injurious insects and plant diseases;

Enforces laws governing apicultural practices, disease control and housing;

Places and enforces quarantines and carries on eradication campaigns against insect pests and plant diseases;

Inspects and certifies potatoes for seed purposes;

Makes field tests of insecticides, fungicides and weed killers;

Inspects and licenses Pennsylvania nurseries, and licenses all dealers in nursery stock; makes investigations for the control of injurious insects and plant diseases;

Maintains collections of insects, plant diseases, plants, and seeds, and identifies specimens.

FOODS AND CHEMISTRY:

JAMES FOUST, *Director.*

Accomplishes its purpose of protecting Pennsylvania homes against harmful foodstuffs by sampling, analyzing, and bringing prosecution under the laws relating to foods and non-alcoholic drinks, including milk, cream, butter, ice-cream, eggs, sausage, fresh meats, soft drinks, fruit syrups, vinegar and kindred food products;

Regulates and issues licenses for the manufacture and sale of oleomargarine;

Licenses and regulates egg-opening plants and cold storage warehouses, maintaining regular inspection and enforcing twelve-month storage limit;

Inspects milk plants and creameries and regulates weighing, testing, buying and selling of milk and cream on a butterfat basis;

Protects honest manufacturers, importers, selling agents and ultimate users of feeding stuffs, fertilizers, lime products, linseed oil, paint, putty, turpentine, insecticides and fungicides, by means of annual registrations followed by inspections, analyses, prosecutions and the publication of the analyses of these products;

Analyzes special samples for residents of the State at the rate of \$1.00 a sample for feeding stuffs, lime products and linseed oils.

MARKETS:

PORTER R. TAYLOR, *Director.*

Investigates and assists in the marketing of farm products; at present chiefly grain and hay, fruits and vegetables, poultry and eggs, and tobacco;

Compiles and distributes daily market information as to supplies, shipments and prices;

Advises growers on transportation of agricultural products;

Assists cooperative associations and public markets;

Establishes standard grades of products and maintains inspection;

STATISTICS:

LEWIS H. WIBLE, *Director,*

Assembles and disseminates essential statistics and facts pertaining to the agriculture of the State, from monthly reports rendered by hundreds of volunteer crop correspondents, information which assists the producer in his sales and interests all industries which deal with agricultural products;

Cooperates with U. S. Bureau of Agricultural Economics in joint crop and livestock reporting and publishes annual and monthly summaries of the data;

Compiles dates of county and local fairs and assembles data pertaining to their success and results during each year.

In accordance with the provisions of Sections 1501 and 1504 of an Act of the General Assembly of Pennsylvania, approved June, 7, 1923, prescribing the powers and duties of the Department of Agriculture of the Commonwealth of Pennsylvania, standard grades for apples, potatoes and wheat in the State of Pennsylvania are hereby promulgated and established. These standard grades and regulations concerning them will be in force and effect on and after August 15, 1924, until amended or superseded by rules and regulations hereafter established and promulgated.

Approved :

F. P. WILLITS,
Secretary of Agriculture,

P. R. TAYLOR,
Director, Bureau of Markets.

Harrisburg, February 15, 1924.



**RULES AND REGULATIONS
PROVIDING FOR
STANDARD GRADES FOR APPLES,
POTATOES AND WHEAT**

REGULATION I—DEFINITIONS

Section 1. Words in these regulations used in the singular form shall be deemed to import the plural and vice versa, as the case may demand.

Section 2. Act—The Act prescribing the powers and duties of the Bureau of Markets of the Pennsylvania Department of Agriculture and amendments thereto. (Act 337, 1919) (Act 288, 1921) (Act 207, 1923).

Section 3. Secretary—The Secretary or Deputy Secretary of Agriculture of Pennsylvania.

Section 4. Director—The Director of the Bureau of Markets of the Pennsylvania Department of Agriculture.

REGULATION II—STANDARD GRADES FOR APPLES

The standard grades for apples in Pennsylvania shall be the following:

U. S. No. 1

U. S. No. 1 shall consist of apples of one variety which are firm, mature, free from decay and from damage caused by dirt, spray-burn, foreign material, skin punctures, sun-scald, visible watercore, bruises, hail, disease, insects or mechanical or other means, except those incident to proper packing. Each apple of this grade shall have the amount of color specified hereinafter for the variety.

In order to allow for variations incident to proper grading and handling, not more than 10%, by weight, of the apples in any package may be below the requirements of this grade but no part of this tolerance shall be allowed for decay.

U. S. No. 2

U. S. No. 2 shall consist of apples of one variety which are firm, mature, free from decay and from serious damage caused by dirt, spray-burn, foreign material, sun-scald, bruises, hail, disease, insects or mechanical or other means.

In order to allow for variations incident to proper grading and handling, not more than 10%, by weight, of the apples in any package may be below the requirements of this grade but no part of this tolerance shall be allowed for decay.

Red Cheeked or Blushed Varieties

| <i>U. S. Fancy</i> | | <i>U. S. No. 1</i> |
|--------------------|---|--------------------|
| Blushed Cheek | Hyde King | Tinge of Color |
| Blushed Cheek | Maiden Blush | Tinge of Color |
| Blushed Cheek | Red Cheeked Pippin | Tinge of Color |
| Blushed Cheek | Winter Banana | Tinge of Color |
| Blushed Cheek | Other Red Cheeked or Blushed Varieties .. | Tinge of Color |

Yellow or Green Varieties

| <i>U. S. Fancy</i> | | <i>U. S. No. 1</i> |
|----------------------|---------------------------------|----------------------|
| Characteristic Color | Rhode Island Greening | Characteristic Color |
| Characteristic Color | Albemarle Pippin | Characteristic Color |
| Characteristic Color | Other Yellow or Green Varieties | Characteristic Color |

Size

The minimum size of the apples in any package shall be plainly stenciled or otherwise marked on the package.

“Minimum size” means the transverse diameter of the smallest apples permitted in the package taken at right angles to a line running from the stem to the blossom end. Minimum sizes shall be stated in terms of whole and quarter inches as $2\frac{1}{4}$ ", $2\frac{1}{2}$ ", in accordance with the facts.

In order to allow for variations incident to proper sizing, not more than 5%, by weight, of the apples in any package may be below the specified minimum size.

Definition of Grade Terms

As used in these grades:

“Well formed” means having the shape characteristic of the variety.

“Free from damage” (U. S. No. 1) means that the apples shall not be injured by any defect to an extent either apparent in the process of proper grading or which would cause a loss in the ordinary preparation for use. The following blemishes shall *not* be considered as damage. (1) Two small healed insect punctures not larger than $\frac{1}{8}$ inch in diameter in which the injured tissue is dry and corky. (2) Limb-rubs which do not materially disfigure the fruit. (3) Scab spots affecting an aggregate area of not more than $\frac{1}{4}$ inch in diameter. (4) Hail marks where the injury is superficial and the skin has not been broken or discolored. (5) Smooth russetting where the injury is net-like and does not spread over more than 20% of the surface, or russet which is solid or bark-like such as is characteristic of the injury of the green fruit worm where the injury affects an aggregate area not to exceed one inch in diameter. (6) Spray-burn or sun-scald where the injury is superficial and the normal color of the fruit is not materially changed and where there is no blistering or cracking of the skin.

“Free from serious damage” (U. S. No. 2) means that no defects shall be permitted which, taken singly or collectively, materially deform or disfigure the fruit. The following defects shall *not* be

considered as serious damage: (1) Healed insect punctures. (2) Small scab, blotch or cedar rust infections not exceeding an aggregate area of one inch in diameter, provided the skin is not cracked. (3) Superficial blemishes such as fruit spot, fly speck and sooty blotch affecting not to exceed 50% of the surface. (4) Bitter pit, spray injury, solid russetting affecting not to exceed one-third of the surface. (5) Or injury such as is caused by aphids, leaf roller, or plum curculio not causing material deformity.

“Materially deformed” means sufficiently misshapen to cause an additional loss of more than 10% over that which would occur in the ordinary preparation for use if the fruit were well formed.

REGULATION III—STANDARD GRADES FOR POTATOES

The standard grades for potatoes in Pennsylvania shall be the following:

U. S. No. 1

U. S. No. 1 shall consist of potatoes of similar varietal characteristics which are not badly misshapen, which are free from freezing injury and soft rot and from damage caused by dirt or other foreign matter, sunburn, second growth, growth cracks, hollow heart, cuts, scab, blight, dry rot, disease, insects or mechanical or other means.

The diameter of potatoes of round varieties shall not be less than $1\frac{7}{8}$ inches, and of potatoes of long varieties $1\frac{3}{4}$ inches.

In order to allow for variations incident to proper grading and handling, not more than 5 per cent, by weight, of any lot may be below the prescribed size, and, in addition, not more than 6 per cent, by weight, may be below the remaining requirements of this grade but not to exceed one-third of the 6% tolerance shall be allowed for potatoes affected by soft rot.

U. S. No. 1 Small

U. S. No. 1 Small shall consist of potatoes ranging in size from $1\frac{1}{2}$ inches to $1\frac{7}{8}$ inches in diameter but meeting all the other requirements of U. S. No. 1.

In order to allow for variations incident to proper grading and handling not more than 25%, by weight, of any lot may vary from the prescribed size, but not to exceed one-fifth of this tolerance shall be allowed for potatoes under $1\frac{1}{2}$ inches in diameter. In addition not more than 6%, by weight, may be below the remaining requirements of this grade, but not to exceed one-third of this 6% tolerance shall be allowed for potatoes affected by soft rot.

U. S. No. 2

U. S. No. 2 shall consist of potatoes of similar varietal characteristics which are free from freezing injury and soft rot and from serious damage caused by sunburn, cuts, scab, blight, dry rot, disease, insects or mechanical or other means.

The diameter of potatoes of this grade shall be not less than 1½ inches.

In order to allow for variations incident to proper grading and handling, not more than 5%, by weight, of any lot may be below the prescribed size, and, in addition, not more than 6 per cent, by weight, may be below the remaining requirements of this grade but not to exceed one-third of this 6% tolerance shall be allowed for potatoes affected by soft rot.

U. S. Fancy

U. S. Fancy shall consist of potatoes of one variety which are mature, bright, well shaped, free from freezing injury, soft rot, dirt or other foreign matter, sunburn, second growth, growth cracks, hollow heart, cuts, scab, blight, dry rot, disease, insects or mechanical injury and other defects. The range in size shall be stated in terms of minimum and maximum diameters or weight following the grade name, but in no case shall the diameter be less than 2 inches.*

In order to allow for variations incident to proper grading and handling, not more than 5 per cent, by weight, of any lot may vary from the range and size stated and, in addition, not more than 6 per cent, by weight, of any lot may be below the remaining requirements of this grade but not to exceed one-third of this 6% tolerance shall be allowed for potatoes affected by soft rot.

Definition of Terms

As used in these grades:

“Mature” means that the outer skin (epidermis) does not loosen or “feather” readily during the ordinary methods of handling.

“Bright” means free from dirt or other foreign matter, damage or discoloration from any cause, so that the outer skin (epidermis) has the attractive color normal for the variety.

“Well shaped” means the normal, typical shape for the variety in the district where grown, and free from pointed, dumb-bell shaped, excessively elongated, and other ill-formed potatoes.

“Diameter” means the greatest dimension at right angles to the longitudinal axis.

“Free . . . from damage” (U. S. No. 1) means that the appearance shall not be injured to an extent readily apparent upon casual examination of the lot, and that any damage from the causes mentioned can be removed in the ordinary process of preparation for use without appreciable waste in addition to that which would occur if the potato were perfect. Loss of outer skin (epidermis) shall not be considered as an injury to the appearance.

*Such statements as the following will be considered as meeting the requirements: “U. S. Grade Fancy, 2 to 3¼ inches”; “U. S. Grade Fancy, 10 oz. to 16 oz.”; “U. S. Grade Fancy, 2 inches and larger”; “U. S. Grade Fancy 10 oz. and larger.”

“Badly misshapen” means of such shape as to cause appreciable waste in the ordinary process of preparation for use in addition to that which would occur if the potato were perfect.

“Free from serious damage” (U. S. No. 2) means that any damage from the causes mentioned can be removed by the ordinary process of preparation for use without a waste of 10 per cent, or more, by weight, in addition to that which would occur if the potato were perfect.

REGULATION IV—STANDARD GRADES FOR WHEAT

The standard grades for wheat in Pennsylvania shall be that portion of the Official Grain Standards of the United States which applies to wheat. Subsequent changes in the Official Grain Standards of the United States shall automatically become effective in these standard grades.

The varieties of wheat commonly grown in Pennsylvania are graded in the Soft Red Winter Class under these standards. The detailed grades for soft red winter wheat are given below. Similar grades apply to other classes of wheat.

| Grade No. | Minimum test weight per bushel | Moisture | Maximum Limits of— | | | | | |
|---------------------------|--------------------------------|----------|--------------------|-------------|---|--------------------------------|-------------------------------|-------|
| | | | Damaged Kernels | | Foreign Material other than dockage | | Wheats of other classes | |
| | | | Total | Heat Damage | Total | Matter other than cereal grain | Total | Durum |
| | Lbs. | Pct. | Pct. | Pct. | Pct. | Pct. | Pct. | Pct. |
| 1 ----- | 60 | 13.5 | 2 | 0.1 | 1 | 0.5 | 5 | 2 |
| 2 ----- | 58 | 14.0 | 4 | 0.2 | 2 | 1.0 | 10 | 3 |
| 3 ----- | 56 | 14.5 | 7 | 0.5 | 3 | 2.0 | 10 | 10 |
| 4 ----- | 54 | 15.5 | 10 | 1.0 | 5 | 3.0 | 10 | 10 |
| 5 ----- | 51 | 15.5 | 15 | 3.0 | 7 | 5.0 | 10 | 10 |
| Sample ¹ ----- | | | | | | | | |

¹Sample Grade shall be wheat of the class Red Winter, respectively, which does not come within the requirements of any of the grades from No. 1 to No. 5, inclusive, or which has any commercially objectionable foreign odor except of smut, garlic, or wild onions, or is very sour, or is heating, hot, infested with live weevils or other insects injurious to stored grain, or is otherwise of distinctly low quality, or contains small, inseparable stones or einders.

(1) The wheat in grades Nos. 1 to 4 inclusive, shall be cool and sweet.

(2) The wheat in grade No. 5 shall be cool, but may be musty or slightly sour.

Definitions

For the purposes of the official grain standards of the United States for wheat.

Wheat. Any grain which, when free from dockage, contains more than 10 per cent of grain of a kind or kinds other than wheat shall not be classified as wheat. The term "wheat" in these standards shall not include emmer, spelt, and einkorn.

Basis of determinations. Each determination of dockage, moisture, temperature, odor, onions, garlic, and live weevils or other insects injurious to stored grain shall be upon the basis of the grain including dockage. All other determinations shall be upon the basis of the grain when free from dockage.

Percentages. Percentages, except in the case of moisture, shall be percentages ascertained by weight.

Percentage of moisture. Percentage of moisture in wheat shall be that ascertained by the moisture tester and the method of use thereof described in Circular No. 72, and supplement thereto, issued by the United States Department of Agriculture, Bureau of Plant Industry, or ascertained by any device and method giving equivalent results.

Test weight per bushel. Test weight per bushel shall be the weight per Winchester bushel as determined by the testing apparatus and the method of use thereof described in Bulletin No. 472, dated October 30, 1916, issued by the United States Department of Agriculture, or as determined by any device and method giving equivalent results.

Dockage. Dockage includes sand, dirt, weed seeds, weed stems, chaff, straw, grain other than wheat, and any other foreign material, which can be removed readily from the wheat by the use of appropriate sieves, cleaning devices, or other practical means suited to separate the foreign material present; also undeveloped, shriveled, and small pieces of wheat kernels removed in properly separating the foreign material, and which can not be recovered by properly rescreening or recleaning. The quantity of dockage shall be calculated in terms of percentage based on the total weight of the grain including the dockage. The percentage of dockage so calculated, when equal to 1 per cent or more, shall be stated in terms of whole

per cent; and when less than 1 per cent shall not be stated. A fraction of a per cent shall be disregarded. The percentage of dockage, so determined and stated, shall be added to the grade designation.

Foreign material other than dockage. Foreign material other than dockage shall include all matter other than wheat which is not separated from the wheat in the proper determination of dockage, except as provided in the case of smutty wheat.

Cereal grains. Cereal grains shall include rye, barley, emmer, spelt, einkorn, corn, grain sorghums, oats, and rice only, and shall not include buckwheat, flaxseed, and wild oats.

Heat-damaged kernels. Heat-damaged kernels shall be kernels and pieces of kernels of wheat which have been distinctly discolored by external heat or as a result of heating caused by fermentation.

Treated wheat. Treated wheat shall be wheat of which more than 10 per cent has been scoured, limed, washed, or treated in any similar manner.

Garlicky wheat. Garlicky wheat shall be all wheat which has an unmistakable odor of garlic or wild onions or which contains garlic or wild onion bulblets in a quantity equal to one or more bulblets in 1,000 grams of wheat.

Smutty wheat. Smutty wheat shall be all wheat which has an unmistakable odor of smut, or which contains spores, balls, or portions of balls of smut in excess of a quantity equal to two balls of average size in 50 grams of wheat.

Mixed wheat. Mixed wheat shall be any mixture of wheat not provided for in the classes from I to VI, inclusive.

Grades for mixed wheat. Mixed wheat shall be graded according to each of the grade requirements common to all of the subclasses of the class of the wheat which predominates over each other class in the mixture, except that (1) all of the grade requirements in any subclass as to the maximum percentage of other wheat or other varieties of wheat shall be disregarded, and (2) when soft Red Winter wheat so predominates, the grade requirements as to the test weight per bushel shall be those of the subclass Red Winter. The grade designation of mixed wheat shall include, successively, in the order named, the number of the grade or the words "Sample grade," as the case may be, the word "Mixed," and, in the order of its predominance, the name and approximate percentage of each class of wheat which constitutes 10 per cent or more of the mixture, but if only one class exceeds 10 per cent of the mixture, the name and approximate percentage of that class shall be added to the grade designation followed by the name and approximate percentage of at least one other class.

Grades for treated wheat. Treated wheat shall be graded and designated according to the grade requirements of the standard applicable to such wheat if it were not treated, and there shall be added to, and made a part of, its grade designation a statement indicating the kind of treatment.

Grades for garlicky wheat. Garlicky wheat shall be graded and designated according to the grade requirements of the standard applicable to such wheat if it were not garlicky, and there shall be added to, and made a part of, its grade designation, one of the following terms; "Light Garlicky," "Medium Garlicky" or "Heavy Garlicky."

Wheat containing 1 to 3 bulblets inclusive shall be graded "Light Garlicky;" 4 to 15 bulblets inclusive, "Medium Garlicky;" more than 15 bulblets, "Heavy Garlicky."

Grades for smutty wheat. Smutty wheat shall be graded and designated according to the method described either in paragraph (a) or paragraph (b) of this section.

(a) Before the determination of smut dockage as provided in this paragraph, the wheat shall be graded and designated according to the grade requirements of the standard applicable to such wheat if it were not smutty, except that smut balls shall not be considered as foreign material other than dockage. The loss in weight caused by the removal of smut from the wheat shall be ascertained by scouring, washing, or otherwise, and shall be calculated in terms of percentage based on the total weight of the grain free from dockage. The percentage so calculated shall be stated in terms of whole per cent and half per cent. A fraction of a per cent when equal to or greater than a half shall be treated as a half and when less than a half shall be disregarded. The percentage of the "smut dockage," so calculated and stated, shall be added to the grade, designation preceding the statement of dockage, if any.

(b) Smutty wheat shall be graded and designated according to the grade requirements of the standard applicable to such wheat if it were not smutty, except that (1) smut balls shall not be considered as foreign material other than dockage, and (2) when the amount of smut present is so great that any one or more of the grade requirements of the grades from No. 1 to No. 5, inclusive, can not be applied accurately, the wheat shall be classified as sample grade. For all grades there shall be added to and made a part of the grade designation, preceding the statement of dockage, if any, the word "Smutty."

REGULATION V—ENFORCEMENT

Whenever any standard for the grade or other classification of any farm product becomes effective under this act, no person thereafter shall pack for sale, offer for sale, consign for sale, or sell any such

farm product, grown, manufactured, or prepared within this State, to which such standard is applicable, unless it conform to such standard, subject to such variations therefrom as may be allowed in the rules and regulations made under this act, except that any such farm product may be packed, offered, or consigned for sale, or sold, without conforming to the standard for the grade or other classification applicable thereto, if the product or the package containing it is not described, marked, or labeled in such a way as to indicate, or to appear upon ordinary observation, that the product conforms to the standard.

The director is authorized to make such rules and regulations under this act as may be deemed necessary to prevent deception with reference to any standards made effective under the act.

The director is authorized, at any time, to cause such investigations, classifications, and tests to be made, and such certificates to be issued, and, upon payment or tender of payment of the market value thereof, to cause such samples to be taken as he may deem necessary to enforce the provisions of this section.

In carrying out the provisions of this act, the director, his employes, or agents, are authorized to enter, on any business day during the usual hours of business, any storehouse, warehouse, cold-storage plant, packing house, stock yard, railroad yard, railroad car, or any other building or place where farm products are kept or stored by any person engaged in marketing.

REGULATION VI-VIOLATIONS

Any person violating, or failing or refusing to comply with any of the provisions of this act, or, with intent to deceive, answers or reports falsely in response to any of the requirements of this act, or who wilfully interferes with the director, his employes or agents, in the execution, or on account of the execution, of his or their duties prescribed in this act, shall be prosecuted in a summary proceeding before any alderman, magistrate, or justice of the peace of the proper city or county, and, upon being convicted thereof, shall be punished for the first offense by a fine of not more than twenty-five dollars, and upon conviction of the second offense by a fine of not less than twenty-five dollars nor more than one hundred dollars, and upon conviction of the third and each subsequent offense by a fine of not less than one hundred dollars nor more than five hundred dollars. In default of the payment of any fine, as aforesaid, any person convicted shall be sentenced to serve one day in the jail of the proper county for each dollar of the fine and costs.

